

by its scientific staff of explorers. The courage, endurance, and determination that they had shown in penetrating the wilds and deserts of Central Asia and Mongolia deserved all praise, and those who were least disposed to admire the motive with which Russia was carrying forward those explorations, could not deny her officers their meed of admiration for the energy and skill which they had shown. There was one conclusion to be safely drawn from the geographical features brought before the Meeting, namely, that whatever might be the intentions of Russia in reference to Merv, she must have Persia's consent before she could occupy that town from her present line of advance. That was a matter of political geography, and therefore, though the Society did not deal with politics, they were quite at liberty to take note of so important a fact. Mr. Michell had gone far to confirm what was reported to have been said quite recently by a Russian ambassador, "that the Russians never thought of Merv till the English began to talk about it." But we are not bound to place implicit trust on the accuracy of an assertion so little in accord with what is known from other and less questionable sources.

The Basin of the Helmund. By C. R. MARKHAM, C.B., Secretary R.G.S.
(Read at the Evening Meeting, February 24th, 1879.)

Map, p. 224.

THE western portion of Afghanistan includes the inland basin of the River Helmund, and the smaller inland basin of the Abistada Lake. It is comprised in one of those river systems without any outlet to the sea, which occupy a vast area in the interior of Asia, where the drainage flowing from a circle or semicircle of mountains is formed into a lake or morass at the lowest level it can reach. Such are the basins of the Caspian and the Aral, of the Balkhash and Baikal, of Lake Lob and the Tibetan plateau, of the Heri-Rud and the Murgháb, of the Helmund and the Abistada Lake.

The two latter form the subject of the present paper. They are surrounded, except to the westward where the Helmund drainage is emptied into the Sistan morass, by a vast amphitheatre of lofty mountains. To the eastward is the great chain of the Western Sulimanis, forming the water-parting between Afghanistan and India. To the north is the ridge connecting the Hindu Kush with the Sulimani, and the continuations of the Hindu Kush mountains, known as the Koh-i-Baba and the Siah-Koh. To the south are the Khoja-Amran Range and the desert of Baluchistan, and to the west is the depression of the Persian desert and the Lake of Sistan, which receives the surplus waters of the Helmund Basin. These limits enclose a mountainous region which is 420 miles in length by about 250 in its greatest breadth.

The basin of the Helmund is classic ground, and is the scene of many of the ancient Persian tales as related in the pages of Ferdosi. The tyrant Zohak, who overthrew the Persian monarchy then represented by Jamshid, was in turn overthrown and driven out of Iran. His memory is preserved in the castle of Zohak near Bamian, and his

THE HELMUND RIVER.



descendants are said to have founded the dynasty of Ghor, in the wild recesses of the Siah-Koh. Zal was a prince who dwelt on the banks of the Helmund, and the story of his love for Rudabah, a princess of Kabul, is one of the most romantic episodes in the "Shah-namah." They were the parents of Rustam, the great hero of ancient Persian history; whose castle is said to have been on an island in the lake of Sistan.

The mountain masses continuing westward from the Hindu Kush are furrowed by the river valleys. They thus form a series of ridges running west and south-west from the western extreme of the Hindu Kush, where that name ceases to be used.

The main continuation of the Hindu Kush is called the Koh-i-Baba, and runs due west, separating the drainage of the Oxus from that of the Helmund. It is only known at its eastern end, where there is a magnificent view of three snow-clad mountains, and of a succession of lofty peaks as far as the eye can reach. Here the peak known as the "Koh-i-Baba," is 18,000 feet above the sea. This scenery has been enjoyed by travellers who have taken the route to Bamian. Dr. Griffith ascended the Koh-i-Baba range in August 1840, to 13,500 feet, and he estimated the height of the peaks at 15,000 feet, the upper portions being entirely bare, and consisting of angular masses of rock. The general character of the range is great barrenness. Ferrier mentions a lofty snow-capped cone called the Chalap Peak, which is probably about 18,000 feet high, as towering above all the others. The eastern end of the Koh-i-Baba Range is crossed by three passes leading to Bamian from the upper valley of the Helmund, namely, the Irak, the Hajikhak, and the Pusht-Hajikhak. The road from the Helmund Valley winds up a zigzag defile to the summit of the Hajikhak Pass, an ascent of 3000 feet, which is dangerous and difficult in winter on account of snow-drifts. The height of the crest is variously given by Burnes, Wood, and Griffith, but the mean of their observations is about 12,000 feet. The descent into the Kalu district and thence to Bamian is between a ridge of high hills on the right, and a rough irregular valley on the left. The Pusht-Hajikhak, to the south, offers a better road, but can only be traversed by caravans from July to September. The Irak Pass is approached, from the Bamian side, by a good road with a gentle ascent, and the summit is a bleak table-land where the snow covers the ground, and high winds are almost continuous. The summit is about 13,000 feet above the sea. The descent is equally gradual and easy. A valuable description of the route from Kabul to Bamian over the Irak Pass, by General Kaye, who traversed it during the first Afghan war, will appear in the next number of our 'Proceedings.' Westward of these passes to Bamian, the Koh-i-Baba Range is entirely unknown. The Koh-i-Baba extends, from the point where the Hindu Kush ends, westward for about a hundred miles, when it separates into two ranges, one continuing westward and called

the Safid-Koh, or white mountains (not to be confused with Safid-Koh which bounds the Kabul Valley to the south), and the other running south-west and separating the basin of the Helmund from that of the Heri-Rud River. The latter is called the Siah-Koh, or black range.

The Siah-Koh runs south-west towards the Persian desert, dividing the Helmund drainage, and the rivers flowing direct to the Lake of Sistan, from the valley of Herat. Ferrier is the only European who claims to have crossed the Siah-Koh Range to the east of the high road from Kandahar to Herat. On that road, south of Herat, the elevation of the water-parting is 6500 feet. The country of Ghor is on the southern slopes of the Siah-Koh.

The Koh-i-Baba and the Siah-Koh, being practically the continuation of the Hindu Kush, form the northern boundary of the basin of the Helmund. They are the Paropamisus Mountains of ancient geographers.

At the point where the Hindu Kush and Koh-i-Baba join, a ridge runs off to the south and west, separating the valley of the Helmund from that of the Argandab. This is the chain of the Paghman Mountains. At first it divides the Ghorband and Kabul valleys from that of the Helmund. Here it is crossed by the road from Kabul to Bamian over the Unai Pass, which is easy and not very steep. The road then descends into the Helmund Valley, and crosses the Koh-i-Baba by the Hajikhak Pass to Bamian.

From the Paghman Range a ridge passes eastward, and connects the system of the Hindu Kush with that of the Sulimanis. This ridge, passing north of Ghazni, separates the basins of the Kabul and Helmund, and is crossed by the road from Kandahar to Kabul. It is called the Sher-Dahan, from the pass which is the highest point on the Kandahar and Kabul road. From the north this pass is approached by an easy ascent to the crest, and the southern descent towards Ghazni is through a narrow gorge to an extensive plain. In the winter the Sher-Dahan Pass is entirely blocked up with snow, and can only be passed with great difficulty on foot; but it can be turned by the Sargawan Kotal, which is always practicable for horsemen.

The Gul-Koh Mountains start from the Sher-Dahan ridge, or, more strictly, from the Paghmans, and separate the Argandab Valley from the Ghazni Basin, and then from the Turnuk. They attain a height of 13,000 feet, the lower parts being scantily clothed with trees, and the summits showing nothing but barren rocks. In the spring and summer a vast variety of wild flowers clothes the slopes; hence the name. There are six passes near Ghazni which lead over the Gul-Koh Mountains into the valley of the Argandab—namely, the Kakrak, Turgan, Gulbarri, Roba, Barakat, and Markul passes.

From the Gul-Koh Mountains a spur branches off to the south, which bounds the Turnuk Valley to the south and east, dividing it from the

basin of the Abistada Lake, and, lower down, from the Arghesan Valley. It is called the Surkh-Koh.

Between the Gul-Koh and Surkh-Koh hills on the east, and the Sulimani Mountains on the west, is the lofty inland basin of Lake Abistada. It is 120 miles long and about 60 wide, with the above limits to east and west, mountains separating it from the Arghesan Basin on the south, and the Safid-Koh and its spurs to the north. The Takri and Katasang hills intersect the northern half of the Abistada Basin.

These mountain ranges form so many rays branching west and southwest from the Hindu Kush. First the Koh-i-Baba and Siah-Koh mountains form the northern limit of the Helmund Basin. Next, the Paghman Hills separate the Helmund from the Argandab, the Gul-Koh Hills separate the Argandab from the Turnuk, and the Surkh-Koh and Gul-Koh divide the Turnuk and Argandab valleys from the Abistada Lake system. The Sher-Dahan Range is the water-parting between the Helmund and the Kabul, and the Western Sulimanis between the Helmund and Abistada and the Indus. Lastly, the Toba and Khoja-Amran mountains, to the south, complete the chain encircling the Helmund Basin. Having thus examined the orography of this region, we may now proceed to consider the river valleys which these ranges enclose.

Three rivers flow direct into the Lake of Sistan from the Siah-Koh Mountains, without first joining the Helmund. The westernmost of these is almost on the boundary between Afghanistan and Persia. This is the Harut-rud, or Sabzawar River, rising in the continuation of the Siah-Koh, to the south of Herat, and flowing southwards for 50 miles under the name of Adraskend. Here it receives the Rudi-i-Gaz, and flows through the plain of Sabzawar under the name of Jaya. Finally it is known as the Harut-rud until it falls into the Sistan Lake, after a course of 230 miles. Much of this course is through a sandy and barren region.

The Farah-rud is so called from the town of Farah near its banks, on the road from Kandahar to Herat. It rises in the unexplored region of the Taimuni Imaks, the ancient kingdom of Ghor. This mountainous and secluded tract, in the recesses of the Siah-Koh Mountains, formed an independent sovereignty in the twelfth century, and its kings are said to be descended from Zohak, the famous tyrant of ancient Persia. The Ghorî dynasty flourished from A.D. 1150 to 1214; and in 1180 Muhammad Ghorî replaced the Ghaznvide dynasty in India, taking Delhi and Ajmir in 1193. The Ghorî supremacy came to an end on his death, and Ghor was overrun in the following century by the Mughal conquerors. The inhabitants are men of Turanian origin, but speak a dialect of the Persian language. A section is said by Abul Fazl to be descended from a colony established by the Mughal conquerors, consisting of four regiments of a thousand men. Hence the name *Hazâra* (a thousand) for the people, and *Hazâra-jat* for the country. But the question of the origin of these mountaineers is one of great intricacy,

and even Sir Henry Rawlinson hesitates to pronounce a decided opinion on the subject. The whole of the region on the southern slopes of the Siah-Koh, and in the upper valleys of the Farah-rud, Khash-rud, Helmund, and Argandab is inhabited by the Imaks and Hazáras. The Imaks are to the west of the Hazáras, and inhabit the Ghorí country, numbering some 450,000 souls. They are chiefly occupied as shepherds, living in tents, their chiefs occupying strong castles. The Imaks are divided into Taimunis, Taimuris, and Zuris.

The Farah-rud River drains part of the Ghorí country, and flowing south-west for about 200 miles, falls into the Lake of Sistan. It is crossed by the main road from Kandahar to Herat, and Conolly says that it is nearly dry during part of the year. But in the spring it is a wide and deep river, and during floods caravans are sometimes detained for weeks. A great deal of the water is taken off for irrigation.

The Khash-rud, east of the Farah-rud, also rises in the Siah-Koh. Conolly describes it as having a broad bed with not much water. In the low country, as they approach the lake, these rivers have their banks fringed with tamarisk-bushes, mimosa, and dwarf palm.

The River Helmund rises at Fazindaz in the Paghman Mountains, 11,500 feet above the sea, and after a south-westerly course of 700 miles, falls into the Sistan Lake. Near its source it is crossed, at Gardan-Diwar, by the Kabul and Bamian road, between the Unai and Hajikhak Passes, and here the elevation is 10,076 feet. At this point the Helmund Valley has been visited by Masson, Burnes, Wood, Griffith, and by English officers during the first Afghan war. The river flows along the northern skirt of the plateau of Urt, a plain on the crest of the Paghman Range 8 miles wide, and 9000 feet above the sea. Here it is joined by the Ab-i-Siah stream coming from the southern slope of the Hajikhak Pass. Thence it passes on, down a deep valley for 35 miles, hugging the southern skirts of the Koh-i-Baba, to Ghaoch-Khol, a village at the junction of the Ab-i-Dilawar. The banks are fringed with rose-bushes and osiers. It next receives rivers on the left bank from the Paghman Hills, called the Tirin and Gurumah, which flow through districts called Tirin, and Nesh; surveyed by Captain Sanders in 1840. After leaving the mountains through which it flows for several hundred miles, the Helmund takes a course along the eastern border of a pastoral district called Zamindawar, which extends for 40 miles to the west of the river. Most of the wool exported from Afghanistan comes from Zamindawar; which district is inhabited by the Alizai branch of the Durani clan of Afghans. An important river called the Bugran, rising in the Siah-Koh, and flowing for some distance parallel with the Khash-rud, waters Zamindawar from north to south, and falls into the Helmund. Lieutenant Cooper, in 1840, mapped about 80 miles of the course of the Bugran, from the Helmund to a place called Hazar-Darakht, far up in the mountains.

Girishk is at the southern limit of Zamindawar, on the right bank of the Helmund. The fort of Girishk stands about a mile and a half from the river, and the site was selected from its proximity to the fords, practicable in June and July, and to the ferry which is established when the river is not fordable. The river, in its course through the mountain valley, is believed to flow in a deep channel between scarped rocks, and to be much obstructed by enormous boulders. At about 40 miles above Girishk, where it has Zamindawar on its right bank, it has a sandy and gravelly bed and runs through a flat country with a less confined channel. Here the water begins to be drawn off for purposes of irrigation. At Girishk, Conolly describes the Helmund as having banks a thousand yards apart, the right low and sandy, but the left rocky and high. In October it had a stream stirrup deep at the ford, with a width of 350 yards. About 50 miles of the course of the Helmund, above Girishk, was surveyed in 1840, and the map, preserved by the late Captain William Fraser Tytler, is now in the Geographical Department of the India Office.

At about 45 miles below Girishk, the Helmund is joined on the left bank, by its principal tributary the Argandab. It then takes a great southern sweep through the Garmsil region, and falls into the Sistan Lake, after a course of over 700 miles. The Garmsil consists of a breadth of rich land about two miles wide, extending along the banks of the river. Even in the dry season the Helmund is never without a plentiful supply of water, but in the winter, after the floods, it comes down with astonishing violence and rapidity. It is prevented from overflowing by embankments of ancient construction at several points, which have now fallen into decay, and in its lower course much of the water is taken off to irrigate the fertile tracts on either bank.

The Argandab, the chief tributary of the Helmund, has its sources 8500 feet above the sea, in the roots of the Paghman and Gul-Koh mountains, in the two elevated valleys of Jarmatu and Aludani, which are inhabited by independent Jaguri Hazáras. The district at the sources of the Argandab is called Malistan on Fraser Tytler's map. The river flows thence down a valley between the Paghman and Gul-Koh ranges, receives the Turnuk 30 miles below Kandahar, and falls into the Helmund after a course of 350 miles. The point of junction is about 2000 feet above the sea, so that the fall is 18 feet per mile, and the velocity of the current in winter is very great. Little is known of the Argandab Valley. In September 1841, it was visited by General Lynch, who crossed the Gul-Koh Range, and came upon the river about midway between its source and Kandahar. Here the Argandab is a fine river, flowing rapidly over a ford where the water was up to the horses' girths. The valley is populous and well cultivated, and there were numerous forts.

Kandahar is situated on a level plain between the Argandab and

Turnuk rivers, 233 miles south-west of Ghazni, 318 from Kabul, and 380 from Herat; and here the Argandab is easily fordable in July, the stream being 40 yards wide. Fraser Tytler preserved several manuscript route-maps of portions of the basin of the Argandab, which are now in the Geographical Department of the India Office. These are a route from Kandahar across the Argandab, and north as far as a place called Gunda; a survey of the district of Nesh between the Argandab and the Helmund; the country on the right bank of the Argandab to the east of Nesh; the district of Kakrez between the Helmund and the Argandab, with much detail, especially on the right bank of the latter river; and a detailed survey of the Valley of Kandahar by Fraser Tytler himself, down to the junction of the Argandab and Turnuk. Below the Jaguri Hazáras, the Argandab Valley is occupied by the Ghilzi Afghans, and below them are the Alizais, a sept of the Durani clan.

The Turnuk River is better known than any other in Afghanistan, because the road from Kandahar to Ghazni passes up its valley. This road was traversed by the armies of Lord Keene and General Nott, and has been travelled over by many Europeans. The sources of the Turnuk are 7040 feet above the sea, at the base of a rock on the high road, and to the north of the village of Mudur, where there is a pool of water supplied by six or seven springs. Thence the river flows through an open ravine to Kalat-i-Ghilzi, where the valley becomes more contracted. Kalat-i-Ghilzi is a strong fort on the right bank, 89 miles from Kandahar, and 144 from Ghazni, situated on an isolated plateau, having a command to the south of several hundred feet above the surrounding country. It is 5773 feet above the sea. The Turnuk in its lower course supplies irrigation to a rich and populous valley, and passes 8 miles south of Kandahar to join the Argandab about 40 miles lower down; but most of the water is consumed in irrigation. The whole length of the course of the Turnuk is 200 miles, and the fall 18 feet per mile. General Lynch explored several of the valleys down which the streams flow from the Gul-Koh Mountains to swell the Turnuk. One of these, called Resenna, he describes as a basin about $7\frac{1}{2}$ miles long by 5, and surrounded by high mountains. This valley was highly cultivated, yielding fine crops of corn and lucerne, and was irrigated by *khariz*, or underground watercourses. It was densely populated by people of the Hazára race, and covered with forts, in which they reside for safety. He visited a similar valley, within the Turnuk Basin, called Angori, and he describes the valleys of Resenna and Angori as perfect little paradises, surrounded by barriers of rocky mountains, from which numerous streams descend. In the Angori Valley there were no less than 150 forts, in which all the inhabitants lived, and into which they drove their cattle in times of danger. In these valleys there is a plentiful growth of the *Salab* (*Salap-i-Misri*), a plant like an onion. The bulbous root, when dried in the sun, shrinks into a small hard substance, which

is the *Salep* so much used in India for its nutritive qualities. The Afghan name is *Peej-i-Koh*, or "the onion of the mountains"; but it is a *Eulopia* (*Orchidaceæ*), not an onion.

The Arghesan and Dori, which unite and join the Turnuk, drain the eastern slopes of the Western Sulimani Range, and the northern sides of the Khoja-Amran. The Arghesan, rising on the Gharaibi Pass, in the Sulimanis, and flowing west, joins the Dori 7 miles from Kandahar. The course of this river is entirely unknown; though the Bombay column, under Neil Campbell, must have crossed it near its source. The road from Kandahar to the Gomul Pass, which has never been traversed by any European, is said to meet the Arghesan 35 miles from Kandahar, and to follow its course for 20 miles to the foot of the Sargaz Kotal which divides two branches. After crossing this pass the road again reaches the bed of the Arghesan and continues along it for 30 miles to the Ghwarza Pass, where it leaves the river. The Dori River rises in the west slopes of the Kohjak Pass—on the road from Kwatah (Quettah) to Kandahar—and after a course of about 90 miles, falls into the Turnuk.

Thus the rivers which drain direct into the Sistan Lake are the Harut-rud, the Farah-rud, the Khash-rud, and the Helmund: of which the latter is by far the most important. The Helmund, Argandab, and Turnuk flow down valleys in the mountains of the Siah-Koh and its offshoots, of the Paghman and Gul-Koh, all belonging to the Hindu Kush system; while the Arghesan and Dori drain the eastern slopes of the Sulimanis and their offshoots. The history of the lower course of the Helmund, after the river has received all its tributaries, and of the changes which have taken place in its mouths, presents a most interesting and instructive subject of investigation for the student of comparative geography. But the whole history of Lake Sistan and its changes has already been exhaustively discussed by Sir Henry Rawlinson in a learned paper which appeared in the forty-third volume of our 'Transactions.' *

It remains to notice the remarkable isolated basin of Lake Abistada on the eastern side of the Western Sulimani Range.† This basin is 150 miles long by 50 broad. Its eastern half is drained by the river of Ghazni. This river is formed in a little valley 12 miles from Ghazni, at the foot of the Gul-Koh mountains. The city of Ghazni, on the left bank of the river, is built on level ground between it and a spur of the Gul-Koh range. This place, which is 7726 feet above the sea, is important because it is the capital of the Ghilzi country, and is on the direct line of communication between Kabul and Kandahar, 85 miles from the former, and 233 from the latter. Here, too, was the capital of Mahmud, the famous invader of India, who flourished from A.D. 997 to 1030. It was Mahmud who formed the river of Ghazni. He dammed

* 'R. G. S. Journal,' xliii. p. 272 (1873).

† See map in January number of the 'Proceedings,' p. 80.

up two out of the three rivulets which are its sources, and thus formed the present river. In the dry season it issues from the dam a stream 20 feet wide and 2 deep, with a velocity of 5 feet per second. In spring it is much larger. The dam, called "Band-i-Sultan" consists of a wall of masonry closing up a rocky valley, and when complete it was 300 yards long, and from 20 to 30 feet high. The outlet is closed in autumn, and a lake fills the valley, 600 yards across. In spring, the orifice is opened for irrigation, and after a course of 10 miles the volume is much reduced, water having been taken off to irrigate fields on either side. Thence it flows over a desolate tract, impregnated with salt, to the Abistada Lake. The eastern half of the Abistada Basin is occupied by the districts of Zurmat and Katawaz.

Zurmat is a valley 40 miles long by 20. Near its northern extremity is a town called Gardez, containing 250 houses of Tajiks, and still further north is Michelga. The mountains which bound Zurmat on either side furnish many *khariz* or underground watercourses for irrigation, and a line of forts is built along these *khariz*, and parallel to the bases of the hills. From Gardez a good road crosses into the Logar valley and goes thence to Kabul; and there is a more difficult one, by Michelga, to Jalalabad. The Shutar-gardan Pass, from the Kurram Valley, also opens upon Zurmat, and the road leads across that district where water, forage and grain are abundant, to Ghazni. The River Jalgu waters the Valley of Zurmat, and falls into the Ghazni.

Katawaz, also in the Abistada Basin to the south of Zurmat, is 48 miles long by 24 in breadth. This district consists of a level and open plain, bounded on the east by the Western Sulimani Mountains, on the west by the lower hills of Katasang, which bound the valley of the Ghazni on the east, and on the south by the Abistada Lake. Katawaz is entirely occupied by the Suliman-Khel division of the Ghilzi tribe. It is watered by the River Paltu which rises in the Western Sulimanis, and has an independent course to the lake. Its stream is about 20 feet wide and a foot deep. The Pass of Paltu, at the source of the river, is reported by Broadfoot to be difficult, and leads over the Sulimanis into the country of the Karotis in the Gomul Valley.

Lake Abistada is 7050 feet above the sea. It was described by the Emperor Baber, and has been visited during this century by Masson and Broadfoot. It is 65 miles south-west of Ghazni, a distance which nearly represents the length of the river, and it receives the Ghazni River, with its affluent the Jalgu, at its northern end; and the Paltu River from the east. The lake is 17 miles long by 15 broad, and it has a trifling depth of 12 feet in the centre. It is bounded by a gently shelving margin of naked clay. Not a tree is in sight, nor even a blade of grass. The water is salt and bitter, and the banks are deeply encrusted with salt. The fish brought down by the Ghazni River, on entering the salt part, sicken and die, and at the point where the river

enters the lake, thousands of dead fish are strewn. Some of the sources of the Arghesan River approach very closely to the southern margin of Lake Abistada, but they are separated by a ridge, from the northern slope of which a stream, with a very short course, flows into the lake. The Afghans say that this stream drains the waters of the lake; and the point is still doubtful. The surrounding country is very barren and dreary, with scarcely any inhabitants.

The basins of the Helmund and Abistada are partly occupied by Imaks and Hazáras, and partly by Afghans, while in the cultivated parts there are many descendants from Persian settlers. The Imaks, a people of Turanian descent, but speaking Persian, occupy the ancient kingdom of Ghor, on the southern slopes of the Siah-Koh Mountains. To the eastward are the Hazáras, who are also established in the upper valleys of the Helmund and Argandab. The powerful Ghilzi tribe of Afghans inhabit a region bounded on the south by Kalat-i-Ghilzi, on the west by the Gul-Koh Mountains, on the east by the Sulimanis, and on the north by the Kabul River. This comprises the upper half of the Turnuk Valley, and the whole of the Abistada Basin. Their number is estimated by Lumsden at 200,000 souls, or 30,000 fighting men. The Durani Afghans occupy a country north and south of the road between Kandahar and Herat, which is about 400 miles long by 80 broad. This territory is bounded on the north by the mountainous slopes of the Siah-Koh, occupied by Imaks and Hazáras; on the west by the Persian frontier; on the south-west by Sistan; on the south by the Khoja-Amran Mountains; and on the east by the country of the Ghilzis. Zamindawar, north of Girishk, is inhabited by the Alizai branch of the Duranis, and these shepherds find a summer retreat in a mountainous region called Siah-band, abounding in cool and grassy valleys, which they share with the Taimuni Imaks. The Durani tribe, which includes the ruling clan of Barakzais, numbers at least 100,000 families.

The authorities for the geography of the basin of the Helmund are numerous. For the physical geography of the lower Helmund and the Sistan Lake we have the narratives of Christie and Conolly; the route of Patterson; the works of Ferrier and Khanikoff; the information given by Goldsmid, St. John, and Lovett, in the official work on Eastern Persia; and the Paper by Sir Henry Rawlinson. The Memoirs of Baber, and the notes in Major Raverty's translation of the Tabakat-i-Nasri, contain much information. Several travellers, and the officers of the first Afghan campaign, have described Kandahar, and the route thence, by the Turnuk Valley, to Kabul, while Broadfoot and Neil Campbell traversed the Abistada Basin. Broadfoot reported on the Ghilzi country and Ghazni; Dr. Kennedy gave an account of the country from the Kohjak Pass to Kandahar, and from Kandahar to Kabul; Masson's and Vigne's journeys led them over the same country; General Lynch explored the valleys of the Turnuk and Argandab; and

the Lumsden Mission to Kandahar resulted in the collection of a large mass of useful information. Still, the greater part of the Helmund Basin is entirely unknown, including the Siah-Koh and nearly all the Koh-i-Baba mountains, several hundred miles of the courses of the Helmund and of the Argandab, a great part of the Abistada Basin and the valley of the Arghesan. This, and the two former papers on Afghan geography, are intended as a review of our existing knowledge, to which great and important additions are certain to be made by Major St. John, Captain Holdich, and other zealous geographers and explorers now serving in Afghanistan.

A description of the valleys of the Upper Oxus, of the Murghab, and the Heri-Rud, would complete this view of the geography of Afghanistan, and I trust that an abler hand may undertake the preparation of such a paper, as a contribution to some future number of our 'Proceedings.'

Books and Memoirs on Zulu-land.

(By E. C. RYE, *Librarian R.G.S.*)

THE following list of books and memoirs is not intended as an exhaustive one, for which both time and material are insufficient. It is hoped, however, that it may contain enough to satisfy the present demand for authorities on Zulu-land and its inhabitants. As in the case of the maps of the region, the works quoted are for the most part wanting in precision and scientific value, and their contents are so varied as to render classification difficult. It may be remarked, that Walmsley's 'Ruined Cities of Zulu-land' is practically a work of fiction. General historical accounts and descriptions, with no special reference to Zulu-land, will be found in Hall's 'Manual of South African Geography' and Noble's 'South Africa, Past and Present.' The general, historical, and political view is discussed in Lieut. D. Moodie's 'Record,' a series of official papers relative to the condition and treatment of native tribes, from 1649 to 1838 (Cape-town), supplemented by our own Parliamentary Blue-books, of which those numbered C. 1961, 1980, 2000, 2079, 2100, 2128, 2144, 2220, and 2222 (some with maps) specially refer to present affairs.

Alberti, Lodewyk.—De Kaffers aan de Zuidkust van Afrika, Natuur en Geschiedkundig beschreven. te Amsterdam (Maaskamp): 1810, 8vo., pp. 260, map, pls.

— Description physique et historique des Cafres, sur la côte meridionale de l'Afrique. Amsterdam (Maaskamp): 1811, 8vo., pp. 255, map, pls. The author accompanied General Janssens to the Cape in 1802, and after being stationed at Algoa Bay, acted as Landdrost in the Uitenhage district, from which he appears to have made several expeditions into Caffraria. His descriptions apply vaguely to the natives of the whole coast as far as the Portuguese possessions; but are probably only applicable to the immediate Cape district.

Angas, G. F.—Kafirs illustrated, with Sketches of Scenery in the Zulu Country, Natal, and Cape Colony. London: 1849, fo., portrait, 30 coloured pls., woodcuts. Includes drawings taken among the Amazulu, Amaponda, and Amakosa.

Arbousset, T.—Relation d'un Voyage d'Exploration au Nord-est de la Colonie du Cap de Bonne Espérance. Paris (Bertrand): 1842, 8vo., pp. 620, map, pls. The author visited South Africa with M. F. Daumas in 1836. A chapter (xvi.